

What is Claimed is:

1. A process for the preparation of a mixture including a discontinuous phase in a continuous phase which
5 comprises using a mixing apparatus having a non-porous mixing surface which is attractive to the continuous phase when the continuous phase is liquid or which is attractive to the discontinuous phase when the continuous phase is gaseous.
- 10 2. The process of Claim 1 wherein said mixing surface is more hydrophilic after sterilisation than is stainless steel.
- 15 3. The process of Claim 1 wherein said mixing surface is more hydrophobic after sterilisation than is stainless steel.
- 20 4. The process of Claim 1 wherein the mixing surface is repellant to the discontinuous phase.
5. The process of Claim 1 wherein said continuous phase is an aqueous liquid.
- 25 6. The process of Claim 1 wherein said surface is made of or coated with gold or a ceramic material.
7. The process of Claim 1 wherein said surface is plasma oven treated.
- 30 8. The process of Claim 5 wherein water receding contact

angle of said surface after steam sterilisation is less than 55E.

- 5 9. The process of Claim 1 wherein said mixture is a pharmaceutical composition.
- 10 10. The process of Claims 1 wherein the continuous phase is an aqueous liquid and the discontinuous phase is at least partially gaseous.
- 15 11. The process of Claim 1 wherein said mixing apparatus is selected from homogenizers, atomizers, sonicators, cap mixers, shakers, paddle mixers, blade mixers, static mixers, expansion nozzles, rotor stators, and extruders.
- 20 12. The process of Claim 1 wherein said surface is steam sterilised before mixing.
- 25 13. The process of Claim 1 for the preparation of a hydrophilic droplet-in-gas spray, wherein the mixing apparatus is a spray nozzle having a surface which is more hydrophilic than sterilized steel.
- 30 14. The process of Claim 1 for the preparation of a hydrophobic droplet-in-gas spray, wherein the mixing apparatus is a spray nozzle having a surface which is more hydrophobic than sterilized steel.
15. A gold plated rotor:stator assembly.

16. An assembly comprising a sonicator horn or other actively vibrating surface placed in a sonicating chamber wherein at least part of the surfaces of said assembly are gold plated.

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17. An extruder having a filter chamber comprising a filter membrane disposed on a support, characterised in that at least part of the surfaces within said chamber are gold plated.

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